



Hwb Gwyddorau Bywyd Cymru  
Life Sciences Hub Wales

# The future of cancer care in Wales: Innovation in cancer care

---

## Executive summary



# Innovation in cancer care

Innovation in the detection, diagnosis, monitoring and treatment of cancer will have a large impact on the future demand placed on cancer services. This report explores the recent advances in these fields, including innovations that are beginning to be rolled out across healthcare systems, and those that are currently being tested in clinical trials. Where available, data related to the impact these tools may have on healthcare resource demand has been identified.

Cancer screening programmes for bowel, cervical and breast cancer are run across the NHS, and lung health screening programmes are in the process of being rolled out. Tools have been developed to increase the efficiency and accessibility of these programmes, including artificial intelligence (AI) to analyse radiological images and self-testing/non-invasive testing kits for sample collection. In addition, multi-cancer detection tests are being trialled within NHS England. The results of these trials will inform recommendations by the UK National Screening Committee, which could lead to significant changes in cancer screening in Wales.

Evidence shows that cancer screening leads to the earlier identification of disease, which has downstream healthcare impacts associated with a higher proportion of people receiving treatments designed for early-stage cancers. Potential screening technologies for prostate cancer are currently being assessed in clinical studies.

Novel diagnostic tools such as AI, robotics and liquid biopsies are also being developed. AI can be used in the analysis of radiological and pathological images, as well as in the identification of cancer symptoms from unstructured patient medical notes.







This leads to earlier diagnosis of patients, again improving outcomes. Robotic systems including robotic bronchoscopes and colonoscopes are also being developed, which have the potential to reduce complications associated with these procedures. Liquid biopsies are blood tests that may be used to non-invasively diagnose cancer, reducing the time and complications associated with conducting tissue biopsies.

Digital healthcare tools such as wearable devices and mobile apps can be used to remotely monitor cancer patients outside of hospital settings, including by setting up virtual wards. In addition, liquid biopsies may be used to monitor cancer, and may be able to detect recurrence earlier than existing tests.

Finally, novel cancer treatments including cell and gene therapies, cancer vaccines and robotic surgery may also help to reduce the demand on healthcare systems. Although these treatments are currently expensive, they have the potential to significantly improve patient outcomes. There are currently hundreds of candidates being assessed in clinical trials. In addition, research groups are investigating whether preventative cancer vaccines can be developed, which would have a significant impact on global cancer care.

Although these innovations have significant potential, the integration of these tools into a model to define how they will impact cancer care settings over the next 5-10 years would be subject to huge uncertainty due to a lack of long-term, real-world clinical evidence of the impact they will have.

**Want to read more?**

Email [hello@lshubwales.com](mailto:hello@lshubwales.com) to get the full report, accessing key insights, statistics and know-how about the Welsh cancer landscape.

## About Sector Intelligence

Our team gathers and analyses insights on market trends, customer needs and the wider industry landscape. This shapes strategies, identifies risks and finds new growth opportunities. Commissioning organisations include SMEs, health boards, Welsh Government, academia and SMEs.

---

## About Life Sciences Hub Wales

We drive the development and adoption of life sciences innovation in health and social care in Wales. We're a dynamic interface, connecting life sciences innovators with research partners, funding opportunities, end users and frontline health and social care teams to support well-being and ultimately generating growth, jobs and prosperity across Wales.

---

## How we can help you

Find out how our support can help your innovation reach the frontline by emailing [hello@lshubwales.com](mailto:hello@lshubwales.com).

[lshubwales.com](https://lshubwales.com)



[hello@lshubwales.com](mailto:hello@lshubwales.com)



February 2025